CLAIMS

What is claimed is:

1. A numerical controller for machine tools, robots or production machines, comprising:

 means for generating marker signals, in particular desired position values, for system components, in particular drives, according to an interpolation clock cycle,

 a control axis providing reference values for reading a table according to the interpolation clock cycle, said reference values defining desired position values for synchronous successor axes,

 wherein a function is stored in the table independent of the interpolation clock cycle, and

 wherein execution of the function is triggered as soon as the interpolation clock cycle has reached or exceeded a point in time of a reference value or has exceeded a following interpolation clock cycle.

2. The numerical controller of claim 1, wherein the function is a hardware-implemented function.

3. The numerical controller of claim 1, wherein the function is a software-implemented function.

4. The numerical controller of claim 1, wherein the table is processed in segments by a mass memory through a FIFO memory located in a controller, wherein the FIFO memory receives data from the mass memory.

5. The numerical controller of claim 1, wherein the table is integrated in sequential operations of ISO programs in such a way that the table is processed immediately at conclusion of a corresponding ISO program and that a following ISO program is started immediately at conclusion of an ongoing table processing.

6. The numerical controller of claim 1, wherein at least one ISO program is integrated in sequential operations of at least one table in such a way that the at least one ISO program is an active program that is started immediately at conclusion of a corresponding table operation and that a following table operation is started immediately at conclusion of the at least one active ISO program.

7. A method for numerical control of machine tools, robots or production machines, comprising the steps of:

generating marker signals, in particular desired position values, for system components, in particular drives, according to an interpolation clock cycle,

providing by way of a control axis reference values for reading a table according to the interpolation clock cycle,

defining in the table encoded and/or non-encoded desired position values for synchronous successor axes, and/or extracting, independent from the interpolation clock cycle, encoded and/or non-encoded functions stored in the table, and

triggering execution of these functions as soon as the interpolation clock cycle has reached or exceeded the point in time of a reference value or has exceeded the point in time in a following interpolation clock cycle.

8. The method of claim 7, wherein the functions include a hardware-implemented function.

9. The method of claim 7, wherein the functions include a software-implemented function.

10. The method of claim 7, wherein the table is processed in segments by a mass memory through a FIFO memory located in a controller, wherein the FIFO memory receives data from the mass memory.

11. The method of claim 7, wherein the table is integrated in sequential operations of ISO programs in such a way that the table is processed immediately at conclusion of a corresponding ISO program and that a following ISO program is started immediately at conclusion of an ongoing table processing.

12. The method of claim 7, wherein at least one ISO program is integrated in sequential operations of at least one table in such a way that the at least one ISO program is an active program that is started immediately before a conclusion of a corresponding table operation and that a following table operation is started immediately before a conclusion of the at least one active ISO program.

13. A numerical controller comprising a computer-readable storage medium tangibly embodying program instructions for control of machine tools, robots or production machines, the program instructions including instructions operable for causing a memory-programmable processor to:

generate desired position values for system components, in particular drives, according to an interpolation clock cycle,

provide by way of a control axis reference values for reading a table according to the interpolation clock cycle,

define encoded and/or non-encoded desired position values for synchronous successor axes, and/or extract independent from the interpolation clock cycle encoded and/or non-encoded functions stored in the table, and

trigger execution of these functions as soon as the interpolation clock cycle has reached or exceeded the point in time of a reference value or has exceeded the point in time in a following interpolation clock cycle.